THE DIFFERENTIAE OF MAN

An Historical and Critical Study

By

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Professor of the Philosophy of Religion and
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Summary

THE dissertation, a part of which is herein published, deals with the problem of man's relation to the rest of nature and particularly to animal life. The problem arises in modern philosophy because of the apparent necessity of the degradation of man in his own estimation as the result of certain important scientific hypotheses of Post-Renaissance times. Do these hypotheses really entail an attack on human dignity?

As we analyze the scientific theories in Post-Renaissance thought which have lowered or have been alleged to lower man's sense of his own dignity and worth, we discover nine logically independent hypotheses or theories:—

a. The abandonment of the geocentric astronomy.
b. The widening of the world in space.
c. The hypothesis of the existence of sentient and rational beings on other planets.
d. The widening of the world in time.
e. The mechanical interpretation of the world.
f. The kinship of man and animals.
g. The running down of the universe.
h. The doctrine of natural selection.
i. The psychological doctrines of Behaviorism and Psychoanalysis.

Many of these, upon analysis, are found to be entirely innocent of the implications regarding man's status which are usually ascribed to them. Thus we may note that the abandonment of geocentric astronomy is relatively of minor importance, since it deals merely with a change in relative location and is consistent with anthropocentric teleology if there should be any good reason for believing in the latter. The most difficult problem, however, arises from the theory, connected with several hypotheses, that man is *nothing but* an animal. There is in men a deep-seated desire to believe that their modes of reasoning give some genuine knowledge, that the human mind is somehow dependable, but this desire is thwarted if human thought is only a tool for animal urges.

The dissertation is devoted chiefly to a consideration of the apparent thwarting of this desire. The question is—*Are there in human life any differentiating phenomena which are irreducible? If so, what are these, and what modes and degrees of difference do they show?*

Chapter II of the essay provides an historical account of the chief ways in which modern philosophers have approached the subject. These range all the way from the theory that man is partially inferior to the beasts, to the conviction that man is marked by a real difference in kind. Characteristic of this second tendency is the thought of the late Andrew Seth Pringle-Pattison who wrote, "The breach between ethical man and pre-human nature constitutes without exception the most important fact which the universe has to show."

Since the subject of philosophical anthropology has been so important in recent German thought, and since German writers have given us some of our best clues, Chapter III is devoted to a consideration of the two contrasting strains of German thought on this subject. On the one hand we have the strain represented by Spengler and his philosophical ancestors, E. von Hartmann and Nietzsche. On the other is that represented in our day by the late Max Scheler and his predecessors, especially Lotze and Eucken. The last book from the pen of Max Scheler, who died in 1928, was entitled, *Die Stellung des Menschen in Kosmos*. The chapter gives a critical account of the thesis of this book.

The fourth chapter of the dissertation turns from the historical to the analytical mood and deals directly with the reductive tendency. This tendency may be best exemplified in the proposition that man is nothing but an animal, in all essential respects, since man is descended from animals. The logic implicit in such a conclusion, when carefully considered, is found to rest on nothing better than a prejudice, a prejudice especially connected with the idea of strict continuity. Numerous philosophers have accepted uncritically the dictum that "there could be nothing more in the effect than there was already in the cause." Strangely enough, this dictum was accepted by both parties in the dispute over evolution which raged in the latter part of the nineteenth century. Its abstract validity was hardly questioned. "Without their knowing it," writes General Smuts, "the great battle raged, not over the facts of Evolution, but over a metaphysical theory

of causation in which they both believed and were both wrong." Much of the modern discussion of the theory of Emergence is appropriate to this chapter. We conclude that evidence for new characters, different in kind from those which have appeared before, can be accepted with humility if it appears, and is not ruled out in advance by a general reductive theory.

The fifth chapter, most of which is printed here, deals with the precise way in which man differs from other creatures, while the sixth chapter points out the ethical implications of self-consciousness which we take to be man's real differentia. This final chapter shows especially the immense ethical significance of self-approbation, which self-consciousness makes possible. Man, being a self-conscious creature, can know the difference between praise and praiseworthiness and this is, indeed, a breach in nature of untold importance. In it lies hope for our race.

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THE SELF-CONSCIOUS ANIMAL

One of the most important results of the modern study of evolution is the increasing tendency to admit the possibility of discontinuity. This gives new interest to the ancient question of man's place in nature, especially in reference to his animal neighbors. Since genuine discontinuity is not proved in advance to be chimerical, our task is to proceed with the inquiry and ask whether there is empirical evidence of discontinuity in the evolutionary scale. If there is discontinuity, what is its precise nature? What significant types of experience or modes of behavior do we find in human beings which we do not find in other living organisms?

The answers to this question have been legion. It has been said that man is the only animal who laughs, the only one who weeps, the only one who prays, the only one who walks fully erect, the only one who makes pictures, the only one who reasons, the only one with a long infancy, the only one who uses tools, the only one who makes fires, the only one who can invent, the only one with a language, the only one who is proud, and the only one who can make progress. The list could be continued much farther, and its very length gives vivid evidence of how keenly men of various periods have been interested in the problem. The persistence of the question gives in advance some suggestion of what the answer may be. Man is indeed the metaphysical animal, as Schopenhauer said,[1] and the epistemological animal, as Professor Lovejoy has said,[2] but he is also the anthropological animal, if we may judge by his enormous interest in his own distinctive nature.

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[1] "Mit dieser Besinnung und dieser Verwunderung entsteht daher das dem Menschen allein eigene Bedürfniss einer Metaphysik: er ist sonach ein *animal metaphysicum.*" Arthur Schopenhauer, *Die Welt als Wille und Vorstellung,* Ergänzungen zum ersten Buch, Kap. 17. Leipzig, 1891, pp. 175, 176.

[2] A. O. Lovejoy, *The Revolt Against Dualism.* N. Y., 1930, p. 12.

I

It is not surprising that many modern thinkers, inspired by naturalistic conceptions, have attempted to find the secret of man's apparently unique powers in physical differences. They are equally unsympathetic with the Jewish-Christian idea of the divine indwelling and the Hellenistic view which stresses reason. Reason is as difficult to handle by the methods of natural science as the divine indwelling is.

Many have professed to find the root distinction either in man's erect posture or his plastic hand or the fortuitous combination of both. The hand being freed from bodily weight was available, so the argument runs, for tool-making and the creative arts. This emphasis on the rôle of the hand goes as far back as Anaxagoras, according to Aristotle,[3] and the stress on man's erect posture was a common theme in ancient literature.[4]

Though the hand of man is a truly wonderful organ, it must be said that the hand alone could hardly account for the many uses to which it has been put. The hand is primarily an instrument and the real question refers to the strange uses to which this instrument has been put. It is used, for example, to make objects which will not be used for many years and for objects which are meaningless unless the interests of posterity are concerned. A man's hand is used to destroy his own life when he considers he has been dishonored. Obviously the hand, taken alone, cannot explain. This was intimated by Aristotle, in his reference to the view of Anaxagoras, when he said, "But it is more rational to suppose that his endowment with hands is the consequence rather than the cause of his superior intelligence."[5]

The truth is that the physical uniqueness of man as an animal is not so marked as has often been supposed. Dr. Adolf H. Schultz has helped recently to dispel confusion on this subject. He has shown that the human thumb is not a completely unique member. "The degree of opposibility," he writes, "attained by the human thumb in adult life is less than that acquired by

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[3] *De Partibus Animalium*, 687a. (Berlin quarto edition.)

[4] Cf. Juvenal, *De Legibus*, I, and Ovid, *Metamorphoses*, I, 97-112, as well as Aristotle, op. cit., 686b.

[5] Aristotle, op. cit., 687b.

some adult chimpanzees."[6] The human thumb is longer than that of the chimpanzee, but the latter can use his short thumb to good advantage, and "chimpanzees have been observed to extract dexterously small splinters in the skin by means of their thumb and index finger."

The upright posture of man is surely an important factor in his development, but it cannot be maintained that the upright habit is the distinct prerogative of man.[7] That many creatures are superior to man in strength, speed and sensory equipment is a platitude. Man's superiority obviously rests on intellectual distinctions rather than on physical distinctions. The five families in the kingdom to which man belongs biologically (Man, Large Anthropoids, Small Anthropoids, Old World Monkeys, New World Monkeys) "are separated by structural gaps of about equal magnitude."[8] No one could seriously hold that they are divided by mental or cultural gaps of even approximately equal magnitude. In spite of the importance of the relatively large brain of man, it is still true to say, as Quatrefages said very clearly fifty years ago, that, physically speaking, man is neither more nor less than an animal.[9]

> From an anatomical point of view, there is less difference between man and the superior order of apes, than between the latter and the inferior orders.[10]

The question of language is closely associated with that of physical dissimilarity. That man could carry on a conversation whereas the beasts of the field were "dumb animals," must have occurred to very early men. Fable, an early form of literature, gets its chief point from the fact that animals do *not* speak. But this easily-made distinction will not hold if pressed too far. Why is it that men alone have language? It cannot be because man alone has the physical apparatus which makes articulate

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[6] A. H. Schultz, *Scientific Monthly*, Nov., 1931, p. 408.

[7] Cf. F. W. Jones, *Arboreal Man*, N. Y., Longmans, p. 224.

[8] Arthur Keith, Encyclopedia Britannica, Fourteenth Edition, Vol. XIV, p. 760.

[9] The common belief that man's brain is heavier, relative to bodily weight, than that of any other living creature, is not strictly true. Many smaller American monkeys exceed man in this respect. Cf. Donald C. Babcock, *Man and Social Achievement*, N. Y., 1929, p. 45.

[10] Armand de Quatrefages, *The Human Species*, N. Y., 1879, p. 18.

sound possible. The fact that a parrot can be taught to speak is significant. Many animals have the physical facilities, but do not use them fully. Moreover it is not strictly true to say that animals do not have languages of their own. Quatrefages, to quote him again, showed that the art of speaking is not strictly a distinctive trait of man alone. He admitted that the language of animals was most rudimentary, perhaps "almost entirely composed of interjections."[11]

In recent years there have been careful studies of animal sounds and cries, so that we are able to speak with definiteness of sub-human language.[12] In Mrs. de Laguna's theory, both proclamation and command are involved in animal language, and human language is marked by the separation of these functions.[13] Animal language, we may say, is used to stimulate action and evoke responses, whereas strictly human language is used, in addition, "to communicate thoughts and indicate properties."[14] Perhaps some indication of man's uniqueness may be seen, not in the fact that he has a language, but in the kind of language that he has. We shall return to the implications of this later.

II

Leaving bodily and linguistic distinctions out of the picture and considering man's total behavior, the observer of man cannot fail to be struck by the fact that man is the creature who makes progress. The contrast between the beaver who makes his dam as countless earlier beavers have made dams, and the man who builds new kinds of structures undreamed of by his ancestors, is so great that it has been mentioned again and again in the history of thought. Many of the animals, particularly bees and ants, show great ingenuity, but it is connected with a technique which is followed undeviatingly by each succeeding generation. Man, on the other hand, does not inherit such an

[11] ibid, p. 21.

[12] Cf. R. M. Yerkes and B. W. Learned, *Chimpanzee Intelligence and its Vocal expressions*, Baltimore, 1925.

[13] Grace A. de Laguna, Speech, *Its Function and Development*, New Haven, 1927, p. 252.

[14] L. Susan Stebbing, *A Modern Introduction to Logic*, N. Y., 1930, p. 14.

adequate technique, but instead is remarkably plastic. He is the creature who is poorly endowed for survival, but well endowed for progress. The animal lives largely by instinct, but man is modifiable in that he can improve on instinct. "Nature lays her commands on every animal," wrote Rousseau, "and the brute obeys her voice. Man receives the same impulsion, but at the same time knows himself at liberty to acquiesce or resist: and it is particularly in his consciousness of this liberty that the spirituality of his soul is displayed."[15]

The root idea of this distinction we see even in the Renaissance writers who called man a microcosm; and we note the same general conception in the doctrine of perfectibility. Another version of the same is in the philosophy of von Hartmann, and Spengler has said that man alone is truly flexible.[16] With the contemporary growth of dynamic psychology, as it is called, the idea that man is the plastic, progressive animal has appeared in numerous text-books. Man's cravings are more numerous than animal cravings, but he has less ready-made means of satisfying them.[17] Thus he is the pottering creature who has less certainty of success and more variability as a result.

The theory that human nature is truly and uniquely plastic has been strongly argued by Professor Hocking in his important book, *Human Nature and its Remaking*. His thesis is as follows:

> As to structure, human nature is undoubtedly the most plastic part of the living world, the most adaptable, the most educable. Of all animals it is man in whom heredity counts for least, and conscious building for most. Consider that his infancy is longest, his instincts least fixed, his brain most unfinished at birth, his powers of habit-making and habit-changing most marked, his susceptibility to social impressions keenest, and it becomes clear that in every way nature, as a prescriptive power, has provided in him for her own displacement.[18]

Man, according to this conception, takes a hand in the evolutionary process. Evolution, in man, ceases to be a blind force.

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[15] J.-J. Rousseau, *Discours sur l'origine et les Fondemens de l'Inégalite parmi les hommes*. A Londres, 1782, p. 77.

[16] Cf. Spengler, *Man and Technics*, pp. 40, 41.

[17] Cf. Arthur I. Gates, *Elementary Psychology*, N. Y., 1925, p. 219.

[18] W. E. Hocking, *Human Nature and its Remaking*, New Haven, 1929, pp. 15, 16. The reference to infancy is not, it should be noted, identical with

This is the conclusion also of Haldane and Huxley in their *Animal Biology*. They say:

> However, the one great difference between man and all other animals is that for them evolution must always be a blind force, of which they are quite unconscious; whereas man has, in some measure at least, the possibility of consciously controlling his evolution according to his wishes.[19]

Such a statement, if it is true—and it can hardly be doubted—has convinced many that man has qualities which cut him off, to a very large extent, from the operation of natural selection and the survival of the fittest. Lankester, in his Romanes Lecture of 1905, was so impressed with this fact that he said it justified the view of man as a new departure, "an *imperium in imperio*."[20]

It might be argued, on the other hand, that man's life is an excellent example of natural selection in that his capacity for intelligent response to a situation is *his* fortunate variation, just as the speed of the horse is his, or the giraffe's neck is his. The intelligent creature is better adapted for survival than the unintelligent one, providing the intelligence does not involve too many compensating handicaps. Though man is feeble at birth, this handicap is overcome by other characteristics and thus man has a chance in the struggle for existence. In so far as thought is instrumental it fits into the natural selection system. The point to stress is that both men and animals have many capacities, as well as overt actions, which are neither favorable nor unfavorable to survival. We shall try to show the basic difference between the non-instrumental characteristics of men and the non-instrumental characteristics of animals. The argu-

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that made by John Fiske. Fiske apparently thought he had made a genuine discovery in his emphasis on man's long infancy. He was wrong on two accounts, first, he did not originate the theory, and, second, it will not bear the weight he attached to it. The consideration of man's long infancy forces us to the deeper question, Why was man willing to limit his freedom of action in this fashion? It is not sufficient to answer that those, who did so limit themselves, had survival advantages. The question remains, What characteristics had to be linked with long infancy to make survival possible on those terms? Professor Hocking is not, in the quotation given, making long infancy the crucial point, but shows how it is one of a set of linked characters.

[19] J. B. S. Haldane and Julian Huxley, *Animal Biology*, Oxford, 1927, p. 335.

[20] Cf. Edwin Ray Lakester, *Nature and Man*, Oxford, 1905, p. 21.

ment presented by Lankester did not really deal with man's powers which have no survival value, but rather with man's ability to change consciously his own evolution, as in eugenics, for example.

Lankester considered man's "educability" his most unique feature, and surmised that it was connected in some way with increased brain size. Vernon Kellogg has called this feature "specialization in the direction of safety from over-specialization."[21] The fullest treatment, however, of the theory that man is differentiated absolutely by his educability has been made by Spiller in *The Origin and Nature of Man.*[22] The position which is presented in several hundred carefully documented pages is stated as follows in the preface:

> First, the author seeks to establish, what is forcibly suggested by a comprehensive survey of the facts, that the members of all animal species are virtually unable to learn anything from their kind and, that, on the contrary, human beings are able to do that to an almost unlimited extent. This will account for the well-nigh infinite potential superiority of human beings over animals, since in favourable circumstances individual men can multiply their powers almost endlessly through assimilating the substance of the consolidated thoughts and experiences of practically their whole race past and present, whilst individual animals, for the reasons adduced, cannot virtually multiply their powers at all.

Spiller concludes further that, since the apes are already intelligent, a further advance, even though not great, would give rise to the sort of intelligence found in man. In other words, the small difference in intelligence between apes and men comes at a crucial place, or what may be termed metaphorically, a "boiling point." Spiller's last major conclusion is that the modern man, accidentally cut off from the "knowledge-pooling" process of centuries, would not rise above the level of the paleolithic tool-producer in one lifetime.

Spiller introduces the term "specio-psychic," an adjective employed "to indicate that human individuals may profit almost infinitely by assimilating the thoughts and experiences of their

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[21] Vernon Kellogg, *Human Life as a Biologist sees it,* N. Y., 1922, p. 108.

[22] G. Spiller, *The Origin and Nature of Man,* London, 1931.

countless fellows near and far in space and time."[23] The specio-psychic factor separates man from, and raises him above, the animal kingdom, just "as the character of locomobility separates animals from, and raises them above, the plant kingdom."[24] In sharp contrast to specio-psychism, as found in man, Spiller uses the term "individuo-psychism," to describe what is found in other living creatures. The animals, we read, have only their instincts plus their individual intelligence, whereas man has, in addition, culturability or the capacity for collective and cumulative intelligence.

The whole specio-psychic conception is bound up closely with the use and significance of tools. Is Spiller merely voicing the common statement that man is the tool-using animal? He is not doing so, because he recognizes that the use of tools is not absolutely peculiar to man. Darwin's assertion that some animals other than men use tools,[25] has been verified by later studies, notably by those of Köhler.[26] Spiller declares, not that men alone use tools, but that men alone use *tool-made* tools. Furthermore, "the tools of animals are *never* the outcome of collective and historic thought."[27]

The observation of animals, so far as they are now known, bears out this conclusion, especially concerning tools as the outcome of collective thought. Spiller has made a useful distinction, but there is still before us the question of how this fact indicated is to be best understood. Why is man culturable with a capacity for cumulative technique? On the surface it is clear that at least two widely different capacities would have to be joined to make cultural accumulation possible: (1) the capacity to copy or imitate, and (2) the capacity to invent.

The copying or imitation of the actions of others is a genuine necessity for culture. If each man had to discover the use of fire for himself and could not learn to use it by watching his fellows, every man would always have to start at the very be-

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[23] ibid, p. 54.

[24] ibid, p. 62.

[25] *The Descent of Man*, New York, 1871, p. 49.

[26] *The Mentality of Apes.*

[27] Spiller, op. cit., p. 83.

ginning.[28] Most of what we call literature is a highly complex tool by which we are able to imitate our remote ancestors and profit by their experience. But a very little reflection shows us that mere imitation is not sufficient for progress. If we could only imitate we should have a completely static life and should perform the same actions that were performed centuries ago in unchanged ways. For progress there must also be the pioneer, the inventor, who does *not* merely imitate. He must try better ways of doing things and depart from the ways of his fellows; he must indeed—to reverse Spiller's usage—be individuo-psychic and not specio-psychic.

The question of imitation in animals has been a highly debatable one for many years. Darwin believed a certain amount of imitation could be observed in animals other than man, but he was guarded in his statements. He mentioned a dog that had been brought up with a cat and kittens, with the result that the dog throughout a life of thirteen years licked his paws as the cats about him did in his infancy.[29] A powerful school of psychological thought, led in large part by Thorndike, has held that imitation is practically nil in non-human animals.[30] A frequently repeated experiment is one in which there are two cats, one having mastered a puzzle box and the other not. The second cat is placed where he can watch the first perform the successful act. Then he is put in the box to try for himself; but he learns no faster than if he had not watched at all. Equally negative results have come from the use of monkeys, though anthropoid apes do better.[31]

Recent experiments indicate that the Thorndike tests are not entirely conclusive and that some imitation, though of a low and clumsy order, does occur at least among the higher vertebrates. Köhler's experiments with apes bear on this point, as shown in the following words:

> It has been maintained that the chimpanzee *never*

[28] Unless, of course, there is inheritance of acquired cultural characters. The weight of learned opinion seems to be against the belief in such inheritance. For a balanced judgment see H. S. Jennings, *The Biological Basis of Human Nature*, N. Y., 1930, pp. 338-347.

[29] *The Descent of Man*, op. cit., p. 43.

[30] Cf. E. L. Thorndike, *Animal intelligence; experimental studies*, N. Y., 1911.

[31] Cf. Henry E. Garrett, *Great experiments in Psychology*, N. Y., 1930, p. 116.

takes over a human method of procedure. That is not correct. Cases occur in which the greatest sceptic would have to admit that the chimpanzee does take over performances, not only from his own kind, but from man also.[32]

Spiller is in accord with the latest investigations in that he admits the fact of imitation, though poorly developed, in the animals. "Fowls, for example," he says, "are perpetually repeating one another's actions."[33] This admission of the existence of imitation in sub-human life is really a very dangerous one for Spiller's theory of what the human mode of differentiation is. If the animals are able to imitate one another, even though in a less degree, one-half of the basis of man's alleged uniqueness is cut away and we are left only with inventiveness, which is really individuo-psychic rather than specio-psychic, as we have seen above. But that animals can invent is demonstrated by the fact, admitted by Spiller, that some of them do produce extra-organismal tools. Curiously enough, Spiller is so engrossed with the concept of specio-psychism that he seems not to realize its dependence on pioneering qualities in man and practically fails to mention inventiveness, either directly or indirectly.

For reasons just given, the theory that man is absolutely distinguished from all other creatures by virtue of the fact that he alone is educable, culturable or specio-psychic, is not satisfactory. Accordingly we must accept one of two possible conclusions. In the first place the efforts of Spiller and many others to discover a mode of difference between man and other living creatures which amounts to a difference of kind, may be misdirected. We must consider the theoretical possibility, so strongly argued by Darwin, as mentioned in earlier chapters, that man's whole nature is only a complex continuation of animal life, obeying the same laws of development that animal nature obeys. Perhaps man is merely *more* imitative and *more* inventive; perhaps his obvious apparent differences are due to the fact that the width of his instrumental relations is greater. Since man can remember more facts and see more relations in more intricate and complex ways, it is conceivable that this difference of degree is his *only* difference. In the second place there may be some other

[32] *The Mentality of Apes*, p. 224.

[33] Spiller, op. cit., p. 57.

mode of differentiation, which is generic, even though that presented by Spiller cannot be so regarded. We shall first consider the second alternative.

III

Another interesting suggestion concerning man's mode of differentiation, which has some similarity to the answer just considered, has been put forward by Korzybski. This writer, especially in *The Manhood of Humanity*, has emphasized the validity of the conception of man as *sui generis*. It is a great mistake, he holds, to think of man as an animal, a mistake as great as to think of a lion as a vegetable. The lion does have certain vegetable qualities, but we do not call him a plant for that reason, because he has, in addition, distinctive non-vegetable qualities. In the same way a man should not be called an animal because, though he has certain animal features, he has others which are supra-animal and completely distinguishing. The gap between animals and men is, he says, even greater than that between plants and animals.

> Just so, human beings have certain animal properties—autonomous mobility, for example, or physical appetites —but humans have other properties or propensities—ethical sense, for example, logical sense, inventiveness, progressiveness—properties or propensities of higher dimensionality, level, or type, and it is these propensities and powers that make human beings *human* and *not* animal.[34]

Korzybski, in order to show what sort of chasm he means, uses the metaphor of dimensionality. When we call man an animal we are blunderers indeed, for we are mixing dimensions. A cube, made up of three dimensions, involves plane surfaces, each of which has only two dimensions. The cube therefore *has* surfaces and the properties of surfaces, but it would be most superficial to say that a cube, therefore, *is* a surface, or a member of the class of surfaces. In the same way we can understand by analogy how a man may have animal characteristics without being, for that reason alone, an animal. This analogy, though

[34] Alfred Korzybski, *The Manhood of Humanity*, N. Y., 1921, p. 62.

cleverly made, proves too much. A cube is not a surface, but there is a sense in which all must admit that man is an animal. The only valid reason for refusing to call him an animal is that, in the minds of many, this is equivalent to "nothing but" an animal. The analogy would be more true and appropriate if we should contrast, not surface and cube, but figure and cube.[35] A cube is a figure, but more than a mere figure. It has properties which figures in general do not have. In the same way it is our thesis in this essay that man has animal propensities and *more*.

> The facts, if we will note them and reflect upon them, are such as to show us that the chasm separating human nature from animal nature is even wider and deeper than the chasm between animal life and the life of plants. For man improves, animals do not; man progresses, animals do not; man invents more and more complicated tools, animals do not; man is a creator of material and spiritual wealth, animals are not; man is a builder of civilization, animals are not; man makes the past live in the present and the present in the future, animals do not; man is the *binder of time*, animals are not.[36]

It is the last fact mentioned in the above quotation that seems to Korzybski to be most significant. Just as Spiller finds the answer in specio-psychism, Korzybski finds it in the "time-binding capacity"; for him, man is unique, because man and man alone is the "time-binder." Man is that creature who is peculiarly endowed with the time-binding capacity, faculty or power. Plants are, in contrast, differentiated by "basic-energy-binding" and animals by "space-binding," *i. e.*, locomobility.

C. J. Keyser has championed with vigor Korzybski's view, and has elaborated it. To call man an animal, he says, is to be guilty of the same confusion involved in calling fractions members of the class of whole numbers, merely "because they happen to have some of the properties of whole numbers."[37] Keyser thinks the animals either have none of the time-binding power, or, if they have it at all, have it in so small a measure as to be negligible. That he is thinking primarily of man's pro-

[35] The analogy drawn from figure and cube was suggested by Professor Lovejoy in private conversation.

[36] ibid, p. 186.

[37] Cassius J. Keyser, *The Hibbert Journal*, Vol. XX, p. 331.

gressiveness or perfectibility is obvious. It is by virtue of this strange time sense, we learn, that "each generation inherits the fruit of the creative toil of bygone generations, augments the inheritance, and transmits it to the generations to come."[38]

This view, like that of Spiller, plainly invites criticism. That Korzybski and his followers have stressed an important factor in human behavior is clear, but is it as basic and all-explanatory as they suppose? One of the first suggestions that comes to our minds is that animals do seem to engage in time-binding experience that cannot truthfully be called negligible. That animals do give evidence of memory, which is surely a binding of past with present, Darwin considered almost too obvious to mention.[39] He gave illustrations of the memory of dogs for their masters in spite of long absence. Indeed, we do not need to introduce the factor of long absence. The fact that a dog remembers his associates at all, even for an hour, is an indication of the penetration of past and present. It is admitted that we cannot know how far a dog is conscious and what goes on in his mind, but he certainly acts *as if* he remembered. His actions are not merely mechanical ones, but include what we can only suppose are manifestations of spontaneous joy.

Furthermore, it is a mistake to suppose that the time-binding power alone is enough to explain all of man's varied forms of uniqueness. Korzybski implies that if to the life of an animal—a dog, for example—were added the time-sense of which he speaks, the dog would then show characteristically human modes of response. This cannot be admitted. A creature might have a most highly developed ability to bring together temporally remote events, and yet be thoroughly unable to profit by it. He might sense the relation of one time to another without sensing the relation between other things and himself, or knowing his place in a rational system of events. Moreover a creature might have imitativeness, plus inventiveness, plus the time-binding power, and yet have no desire to do anything about it. The now hackneyed quotation from Shelley contains in its two lines two logically distinct ideas. Man might easily "look before and after," and yet have no tendency to "pine for what is not."

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[38] ibid, p. 330.

[39] *The Descent of Man*, op. cit., pp. 43, 44.

If we try to distinguish human from animal behavior by the familiar method of single difference, we find that the power of time-binding, important as it is, will not explain all that calls for explanation. This one capacity is not alone a sufficient condition of man's unique ways of acting.

IV

We may be convinced that the perfectibility theme, celebrated by so many thinkers, provides the right approach to our problem, even though the explanations given by Spiller and Korzybski in accordance with this theme have not been completely successful ones. It has already been noted above that man, as he makes progress in history, standing on the shoulders of his predecessors, so changes his environment that he may be said to have freed himself, to a very large extent, from the operation of unconscious natural selection. This is true, as Lankester declared in his Romanes Lecture, and there is certainly much to be said for the ancient conviction that man is different from all others in that he is free. The animal urged on by instinct has no choice; he must act as natural forces make him act. The beaver must build as his fathers built, but man is free to change. The fact that human actions are less perfectly predictable than the actions of the animals, particularly those low in the evolutionary scale, has been noted by countless observers and has contributed largely to the belief that man is primarily differentiated by freedom. Vernon Kellogg has voiced this familiar view in a recent book.

> The human being has such power of dislocating his reactions to stimuli both as regards time and space that his behavior cannot be prophesied by any naturalist with ever so complete knowledge of the reflexes and tropisms exhibited by very simple animals.[40]

Among those who have stressed this theme in their effort to discover the basic differentiæ of the human species, is the late Professor Carr, especially in his book, *The Unique Status of Man*.[41] Carr belonged to the great tradition of those who have

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[40] Vernon Kellogg, *Human Life as a Biologist sees it.*

[41] H. W. Carr, *The Unique Status of Man*, N. Y., 1928.

stressed man's educability and artificiality. "Man alone," he wrote, "has superposed an artificial life on his natural life and thereby has found means to pass from a material existence . . . into a realm of spiritual values."[42] The key word of Carr's treatment of the subject is *freedom*. Man is free to substitute artificial for natural ways of acting, free to make the appropriate rather than the habitual or instinctive response to a situation. The source of this freedom is rationality. "Anatomically and physiologically the specific differences which divide man from other forms of living creatures," we read, "are very slight." Man's domination is due neither to strength nor to cunning devices. "It is due entirely to discourse of reason, and discourse of reason implies positive freedom."[43] Freedom, according to Carr's usage of the term, is *freedom to think*, not freedom of the will nor the freedom of indifference. He believed strongly in the causal efficacy of thought.

In saying that man is free, but free because he is reasonable, Professor Carr was attempting to combine two great traditions in philosophical anthropology, the tradition which holds that man is primarily rational, and that which sees man as the plastic or educable animal. In this combination of the two Carr was by no means alone. It has often appeared that what freedom denotes in ordinary speech is practically identical with what rationality denotes. This has been well said by A. E. Taylor in a passage worthy of somewhat extended quotation.

> Again, when we speak of "rationality" as characteristic of the highest forms of psychical life, what we have in view is just this same thorough-going adaptation of the organism's way of reacting upon its environment to the permanent interests of individual or species. When we contrast man as the possessor of a "capability and god-like reason" and "large discourse looking before and after" with the "beast that wants discourse of reason," the choice of the contrasted epithets shows that the "capability" we have in mind is just this same power, in virtue of memories of the past and anticipations of the future, to find the appropriate, as distinguished from the merely customary, the precisely, as distinguished from the merely vaguely appropriate reaction.[44]

[42] ibid, p. 211.

[43] ibid, p. 207.

[44] A. E. Taylor, *The Problem of Conduct*, London, 1901, p. 40.

That man does exhibit freedom, understood in the sense of the appropriate response, and that he exhibits it in a marked degree, cannot be seriously questioned; but it may well be asked if this is *all* we mean by rationality. Furthermore, is man the only creature who is thus free? As we study the actions of animals, particularly of the higher apes, we are convinced that they are, at least occasionally, free in the sense just mentioned. Köhler, in his observations of apes on the island of Teneriffe, has provided us with what are rapidly becoming classic examples of animal rationality. The animals showed considerable ability in roundabout ways of securing results desired, as when a number of boxes were brought together and made into a pile on which the ape could climb to get a banana suspended from the ceiling. The merely instinctive act would not have gone beyond a vain jumping towards the distant object. The piling of boxes was not a customary procedure and certainly cannot be described as an inherited mode of response. It is extremely likely that there was no instance of such a piling of boxes in the experience of a single one of the particular ape's ancestors. The ape was *free* to make the "precisely appropriate reaction."

It might be said that the apes were merely imitating some similar action observed in human beings. Köhler thinks this unlikely, but lays the main stress on his observation that imitation is never "mere imitation."[45] Imitation, as he has seen it in his experiments, is not chance copying or uncomprehending mimicry, but always involves some meaning of the situation. Before an ape can imitate the solution of a problem he must be familiar with and understand the situation. The evidence for this "insight" is seen in the fact that the apes often imitate solutions with variations, eliminating the non-essentials. They act as if they knew what they were doing. It is highly probable that there is never any imitation that does not involve a certain degree of insight and therefore of *freedom* from what is inappropriate. Any animal that performs an act of significant imitation is, to that extent, plastic and free.

The freedom which we are now considering is not freedom of the will, but the freedom of the organism to think what it will do in view of some intimation of causal sequence, quite apart from

[45] Cf. W. Köhler, *The Mentality of Apes*, Chapter VII.

habitual actions or native urges. In this sense, those who have said that man is the creature who is free have spoken truly, but by so doing, they have not made the sharp differentiation between man and the animals that they have so often hoped to make. The same is true of those who have emphasized reason. Man is much *more* free, and *more* reasonable, but he does not appear to have complete monopoly on freedom and rationality. Again we must recognize the theoretical possibility that this is the whole answer to our question and that man differs from other creatures only in degree. The only way in which this position could be disproved would be to show that there is some mode of differentiation which is not a matter of more of the same thing.

V

Let us return again to Lankester's dictum "that Man forms a new departure in the gradual unfolding of Nature's predestined scheme," because he is "Nature's rebel." "At every step of his progress," we read, "man has receded further and further from the ancient rule exercised by Nature."[46] He lives in the general scheme of nature, but he has set up his own kingdom in that scheme.

Following Lankester's suggestive lead, we may say that there is at least one significant manner in which man becomes an "imperium in imperio." All creatures shape their environment to some degree, and man as the "world-changer" is only doing in a large way what other living creatures do in a small way; but man seems to be the only one who consciously shapes himself. Professor Hocking suggests that man presents the only exception to the rule that the arts of animals are directed to the environment.[47] Man seeks to reshape the world as others do, but he does not stop there; he goes on to try to reshape himself. The ant and the beaver, in their building operations, are producing artificial objects, but man does more; he deliberately and consciously fosters what we can only call his "inner life." The animal, in the familiar "trial and error" learning, whether it be the actual trial and error of Thorndike's cats, or the imaginary

[46] *Nature and Man*, op. cit., p. 22.

[47] W. E. Hocking, op. cit., pp. 5, 6.

trial and error of Köhler's apes, is critical of his actions; but man, in addition to this, is critical of what he calls his "self." In short, man, and man alone, so far as we can judge, is self-conscious. He is not wholly absorbed in external perception.

Self-consciousness is a highly ambiguous term in ordinary language and our purposes will best be served if we attempt to clarify the conception. We shall first attempt to identify the experience in question and then point out three of the major conditions of the experience.

It might seem that we should first show what this "self" is, and then define self-consciousness as consciousness of this self; but this is an impossible task, since the self is only known self-consciously.[48] Self-consciousness is the fundamental experience and the idea of self is derivative. The self-conscious experience, seen in its simplest form, is that in which the individual makes his own states of mind, or his own feelings, his objects of attention. There is a great difference between the experience of a creature who wants, and the experience of a creature who attends to his *wanting*. It is one thing to have the experience of pain; it is quite another if the pain is felt at the thought of one's own character. It is one thing to criticize a method of achieving a satisfaction; it is quite another to criticize the character of the satisfaction permitted.

That there can be an experience in which the subject and object are somehow identical has seemed to many philosophers a mysterious and wonderful fact. A striking, brief definition of self in terms of self-consciousness is that of Volkman: "That subject whose activity is the subject's object."[49] This definition will suffice if "activity" is interpreted as in the preceding paragraph and is not understood to involve mere methods. Philosophers have differed widely among themselves concerning the ultimate nature of the self, some holding that the self is that to which experience is presented, while others hold that it is

[48] Cf. R. F. A. Hoernlé, *Studies in Contemporary Metaphysics*, N. Y., 1920, p. 253.

[49] *Lehrb. d. Psychol.*, 4th ed., ii, 217. Quoted by Baldwin, *Dictionary of Philosophy and Psychology*, N. Y., 1902, Vol. II, p. 507.

simply the sytsem of experience itself. An outstanding upholder of the latter view is G. F. Stout. He writes:

> The general principle is that the changing complex of individual experience has the unity and identity uniquely distinctive of what we call a single self or ego, only in so far as objects are apprehended as one and the same in different acts or in different stages and phases of the same act. In other words, the unity of the self is essentially a unity of *intentional* experience and essentially conditioned by unity of the object as meant or intended.[50]

But whether we take Stout's interpretation of the primary self, or the contrasting interpretation of it as that to which experience is presented, we can, without going into this difficult problem, at least make clear the contrast between a primary self which is the subject of experience, and the self which is the subject of conscious experience of itself. In the latter there is the subject-self which reflects, and the object-self, on which it reflects; but the ego identifies, in reflection, the object-self with the subject-self.[51] What are the conditions of this experience?

(*a*) The first condition of self-conscious experience, so described, is that it depends upon a transcendence of the given. As Eisler has pointed out, *Selbstbewusstsein* and *Aussenweltsbewusstsein* are correlative.[52] In order to experience self-consciousness, the individual must be able to contrast the given with the not given, and to *refer* beyond the datum. His own datum is private, but he contrasts this with that to which his images refer. Most, if not all, of his states of consciousness, to which the individual attends, are observed *retrospectively* and thus are *not now given*. An animal gives evidence of memory in the sense that past events have a holdover influence on his present life, but this does not mean that past events are remembered *as past*. So far as we know, the dog who "remembers" his master does not, just because he remembers, *locate* his memory images outside the existential limits of the present subjective content.

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[50] G. F. Stout, *Studies in Philosophy and Psychology*, London, 1930, p. 359.

[51] Cf. Baldwin, *Dictionary of Philosophy and Psychology*, Vol. II, p. 507. The article is by J. M. Baldwin and G. F. Stout.

[52] Rudolph Eisler, *Wörterbuch der Philosophischen Begriffe*, Berlin, 1910, Dritter Band, p. 1310. This author gives an account of the place of self-consciousness in the history of philosophy.

Man normally makes the referent of consciousness something other than the content of consciousness. The higher animals seem to be conscious, and probably are, in the sense that they have the feeling of "this-here-now," but man can add to such consciousness the "that-there-then," with the added consciousness that the relation to the "this-here-now" is seen reflectively to be in some sense identical with the relation to the "that-there-then."

A cat playing with a mouse has successive and simultaneous experiences and these experiences seem to *us* to have the unity distinctively characteristic of an identical self. Several successive acts belong to one subject and several simultaneous acts do also, but the cat is not conscious of self unless it can transcend the given. G. F. Stout points out that consciousness of self, even in its simplest phases, "always includes a reference beyond immediate experience."[53] Man is self-conscious partly because he considers what he *was* in relation to an external reality which is *no more*, and imagines what he will be in relation to another external reality which is *not yet*.

(*b*) A second major condition of self-consciousness is that it depends upon transcendence of the category of use. The animals have many traits which have apparent survival value, but these, so far as we know, are not part of their reflective life. In so far as an animal reasons, we may conjecture on the basis of the available evidence, he uses his reason instrumentally. Man, in contrast, is able, at least at times, to rise out of the relation of use into the relation of value. Since he conceives of his "self" as separate from the "not-self," each may be considered as existing in its own right. He is conscious of the independence and autonomy of his self, neither fully at the mercy of things nor necessarily their master.

Animals may be said to have "objects," if "object" does not imply transcendence of the given; but, because they do not rise reflectively above the relation of use, they cannot raise the question of the difference between the objects as instruments and what they would be if they were not instruments. Because man does make this distinction reflectively, he begins to doubt, and recognizes error *as* error. When an animal makes the wrong

[53] G. F. Stout, *Studies in Philosophy and Psychology*, pp. 211, 212.

turn in a maze he perhaps bumps his nose, and this has residual effect; but this is not to say that he has consciously made a mistake about an object. He has, instead, made the wrong *use* of an object. To have a "conditioned reflex," so that certain modes of action are later avoided, is not the same as the recognition of error; the latter already implies the distinction between appearance and reality. As man recedes more from the relation of use he becomes more intensely conscious of himself. He considers what the independent external reality would be like if it were not being experienced by him, and he considers what *he* would be like if he were not considering the particular external reality which now is.

(*c*) A third condition of self-consciousness is social realism. Though it is conceivable that there might be a single self in the world and that self conscious of itself, self-consciousness as we know it is conditioned by the belief that there are other selves for which my object-self is also an object. The individual sees that other selves are objects of interest and value for him, and infers that his self is an object of interest and value for others. He may easily over-emphasize the extent to which this is true, but the belief that it is true is one of the chief influences on his thought of himself. He cares about the impression he makes and this involves self-consciousness, in the popular sense of embarrassment. Man's self-consciousness is partly dependent on the fact that he sees himself as an object of awareness in other fields of awareness.

If we take self-consciousness to be the sole generic differentia of the human animal, we can construct a scheme as systematically perfect as those suggested by Spiller and Korzybski. The latter distinguished between the plants as "basic-energy-binding," the animals as "space-binding," and man as "time-binding." Instead we may say the plants are "unconscious," the animals (at least the higher ones) are "conscious," and man is "self-conscious." We saw that the other schemes mentioned, though pointing to important phenomena, could not provide us with the basic form of differentiation because they left much that is obviously unique unexplained.

What really demands explanation is the fact that man does so differ in degree in a number of respects, particularly in plas-

ticity, time-binding, and rationality. Perhaps the *special kind* of rational experience of man, the special kind of temporal experience, and the other differences of degree are explainable in terms of self-consciousness. There is reason to suppose that what we share with animals would be changed, in some of its aspects, if self-consciousness were added. That man is modified in many different ways, is a matter of common knowledge and this, we suspect, is because consciousness of self is so profoundly modifying, even to animal traits.

In the first place, this thesis accounts for what Spiller calls "specio-psychism." There could be a plastic creature who was not introspective, but merely critical of his adaptations or methods. Such a creature might make considerable advances in his own lifetime, but he would not for that reason contribute to the cumulative progress of the race. Part of the reason for man's cumulative progress is that men think of their offspring as extensions of themselves. My self really extends, as James suggested, to whatever I call mine, including my children, my family, and, to a less extent, my whole group.[54] It is notorious that consciousness of self is often expressed most vigorously in ambition for one's children. We should expect, then, that a creature who was both plastic in his original responses, and fitted for consciousness of self, would be sure to make culture a cumulative affair. Eventually, then, the contrast between his species and those not so endowed becomes enormous.

By means of his theory of the bi-polar nature of self-consciousness, Baldwin was able to find a place for both imitation and inventiveness in his sytem. These two features may exist separately in the animals, but for man they are the *necessary* outcome of self-consciousness. On the surface of the matter, imitation and invention seem antithetic, but self-consciousness, as we may see in our own experience, is precisely of this paradoxical nature. We know that both our adoption of group standards and our revolt from them arise from the conscious effort to put ourselves in the best possible relationship to the social and physical world in which we are placed. Various animals have the rudiments of imitation, and many have the rudiments of invention; but it is only man who can, by his self-conscious mental processes, bind

[54] William James, *Principles of Psychology*, N. Y., 1890, Vol. I, Chapter X.

these seeming opposites into a united system to make culture a cumulative affair.

In the second place, self-consciousness will account for the special kind of temporal experience which men have. The experience of time-binding is certainly not peculiar to man, since many animals show evidence of memory. A creature, however, might have memory, but no knowledge of time. There is a great difference between the succession of consciousness and consciousness of succession. What we should expect of a self-conscious creature would be the ability to recognize the past *as* past, and construct a temporal series in which each known event of his life would take its appropriate place. He could do this by virtue of his ability to transcend the given. In the conscious comparison of the present self with what is recognized as the past self, and also with what is recognized as the future self, we have the added element which takes us from the culturally static life of animals to the remarkable phenomenon of racial progress in man.

Though it cannot successfully be maintained that man is the only creature who has a language, it is true that he is the only creature, so far as we know, who has a written language. What does the fact of a written language imply? It implies that the user can have intellectual commerce with those who have been long dead, with countless persons whom he has never seen and never will see, with those who are not yet born. Spoken language, which the animals crudely share, does not demand any real transcendence of the immediate present or the immediate locality. Thus part of man's linguistic uniqueness depends upon the ability to transcend the here and now, with reference to the "there" and "then." Written language is intended primarily for those *not present.* Moreover, the ability to disengage spoken language from mere commands shows a capacity for what may be termed objectivity. But these traits are precisely those which our analysis of self-consciousness reveals.

We should expect the superiority of human over animal language to be very great in view of the fact that human self-consciousness makes possible the notion of objectivity. This, in the opinion of the late Clutton-Brock, was an important point.

> To most animals perhaps the vision of an object has no meaning beyond that of use, it suggests merely security

> or danger, pleasure or pain; and that is not concerned with the object as an independent reality. But man has gradually acquired a sense of the independent reality of objects and has been able to contemplate them apart from their use for him. We have language itself because we have this power of disinterested contemplation. It has been said that animals have languages, since they can make sounds expressing their desire for things. But that is not language, for it expresses only the desire for a thing, never the thing itself.[55]

Clutton-Brock went on to say that the full-fledged language of men is marked by the ability to make *nouns*, whereas the beast has no true nouns because he cannot think of a *thing*, but only of his desire for it. He held that we "are not sharply separated from the beasts merely because we are reasoning animals; our very reason is still subject to animal habits."[56] The real distinction appears, said Clutton-Brock, in the fact that we can cut apart the realm of self from the realm of the not-self.

The experience of art shows that man has entered a realm in which things and experiences, including man's own inner experiences, can have a supreme value in themselves regardless of whether or not they subserve any purely biological needs. Devotion to pure music or to pure mathematics, which has the objectivity of art, seems to have no counterpart among the non-self-conscious creatures who share the earth with men. Devotion to philosophy is on the same plane, since, as was suggested above, the metaphysician is an artist on a cosmic scale. Self-conscious man is distinguished from the rest of the animal creation, and shows his Place in Nature by his knowledge that he *has* a Place in Nature.[57] It is probably true that man is the only creature who wonders at his own existence.

In the long history of man's wonder at his own existence, he has developed anthropology after anthropology. Some indication has been given in this essay of the many attempts that have been made to state what man's irreducible differentiæ are, if any.

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[55] A. Clutton-Brock, "Spirit and Matter," *The Spirit*, London, 1921, p. 320.

[56] ibid, p. 335.

[57] See quotation from Schopenhauer concerning man as "the metaphysical animal," Note 1, this essay. In this connection Schopenhauer compared the lower animals to the mere sailors, and man to the navigator who, by means of chart and compass, knows where he is.

Some of these are true means of differentiation and some are not, but all of them, if our argument is valid, point farther to something generic and more basic. That this basic differentia is self-consciousness has not been the favorite thesis of most writers on the subject, but it has been stated either explicitly or implicitly by certain modern thinkers of importance.[58] Our argument has been an attempt to fortify this view of the matter.

Beyond man's capacity to make tools or laugh or weep or make progress or to know and reason, lies the generic capacity for discovering the universe over against his own self. We cannot be certain about what goes on in animal minds, but there would seem to be no evidence that they live other than unself-consciously. It is logical to suppose that from this initial capacity of man, to distinguish between the world and his own inner states, have evolved all the typically human experiences, æsthetic, cognitive and moral.

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[58] The most explicit expressions of this point of view with which I am familiar are, so far as they appear in philosophical literature, to be found in T. H. Green's *Prolegomena to Ethics*, Max Scheler's *Die Stellung des Menschen im Kosmos*, Professor Lovejoy's "The Desires of the Self-Conscious," *Journal of Philosophy, Psychology and Scientific Methods*, Vol. IV, pp. 29-39, and Professor Hocking's *Human Nature and Its Remaking*. Implicit avowals are abundant.

VITA

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